

THREE NEW SPECIES FROM THE SPIDER FAMILIES AMAUROBIIDAE, THOMISIDAE AND SALTICIDAE (ARANEAE: ARACHNIDA) FROM INDIA¹

D.B. BASTAWADE²

(With twenty-eight text-figures)

Key words: Araneae, Amaurobiidae, new record, Indian main land, Families, Thomisidae, Salticidae, new species, *Amaurobius indicus*, *Camericus bipunctatus*, *Myrmarachne dirangicus*

Three new species of spiders have been described with first report of the Family Amaurobiidae from the Indian main land from the Maharashtra State as *Amaurobius indicus*. Additional two new species *Camericus bipunctatus*, *Myrmarachne dirangicus*, have been described under the families Thomisidae and Salticidae respectively and reported from Arunachal Pradesh, India. The detail descriptions and diagnostic illustrations have been provided for easy identification with key characters and allied species respectively.

Studies on the spider fauna of British India has been dealt with by many European Arachnologists namely Thorell, Simon, Stoliczka, Cambridge to Pocock and later by many Indians such as Narayana, Basu and more recently by Tikader, Sadana, Patel, Malhotra, Gajbe, Bal, Biswas and Reddy among others. Considering the wide variety of habits inhabited by spiders the present information seems scanty and scarce, and needs more study to understand the diversity amongst spiders.

This paper is based on recent survey explorations made for collections in various parts of India. The Family Amaurobiidae is being reported for the first time from the mainland. Tikader (1977) reported it earlier from the Andaman Islands. The Thomisid genus *Camericus* has so far been known from only two species (Tikader 1980). A third species is recorded here with its full description and illustrations. The Salticid genus *Myrmarachne* is being reported for the first time from Arunachal Pradesh by a new species.

FAMILY: AMAUROBIIDAE

Amaurobius indicus sp. nov.

(Figs 1-12)

General: Dark blackish-brown to yellowish-brown in colour, ventral portion lighter; dorsum entirely covered with scutum in both male and female (Fig. 1) but the ventral collar extends posteriorly up to 2/3rd portion.

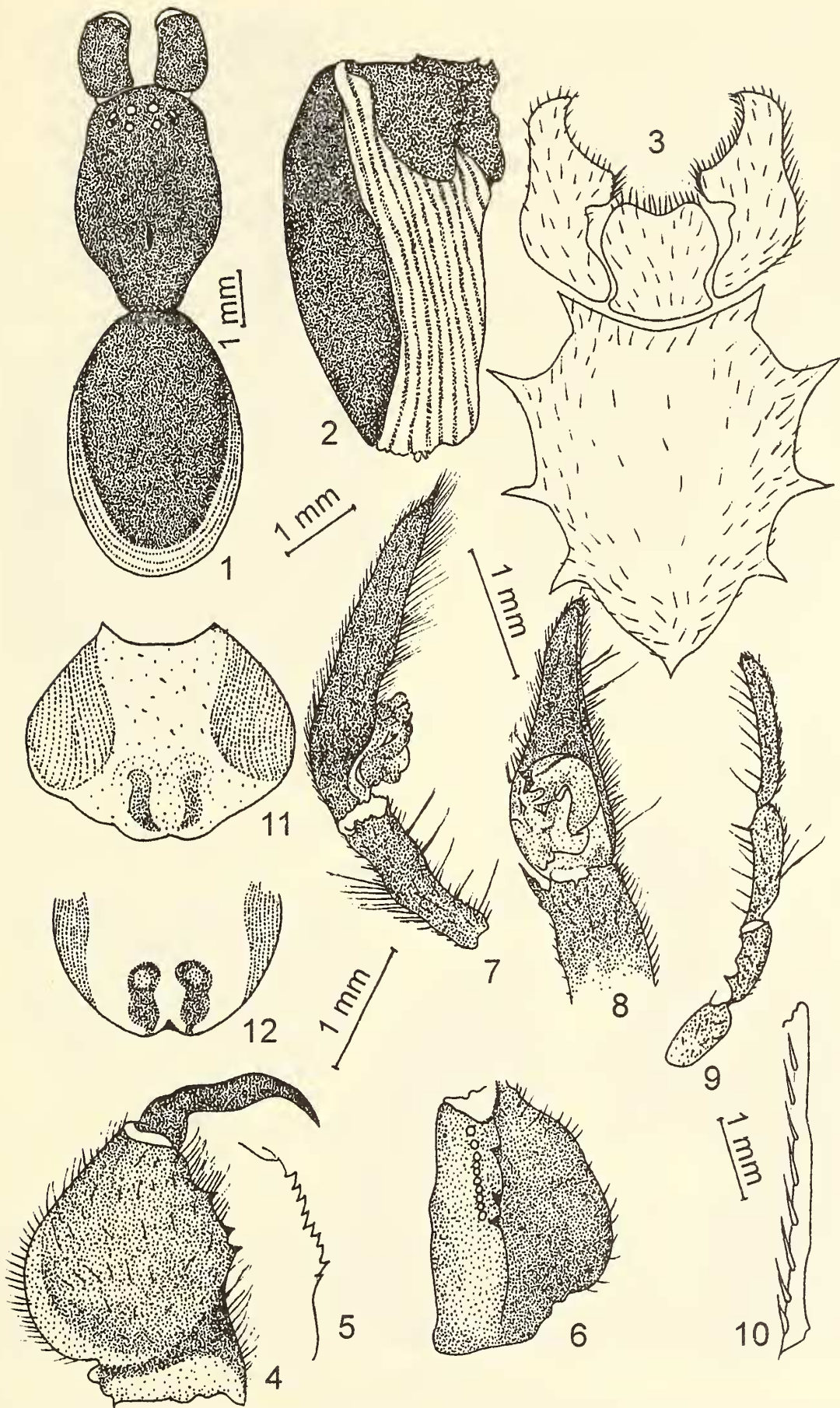
All legs armed below with a row of paired spines on Tibiae and Metatarsi. Male with much elongated and shallow cymbium, and bulging paracymbium at the base.

Measurements (in mm): Total length 8.00; Cephalothorax 3.8 long, 2.3 wide; Abdomen 4.2 long, 3.8 wide.

Cephalothorax: Longer than wide, entire surface rough with fine granulation and without hair, median anterior portion high with high clypeus, eight eyes placed in two rows, laterals smaller and close to each other, anterior medians larger than remaining, ocular quad almost as wide as long; Cephalothoracic sternum broad and pointed posteriorly, labium longer than wide and endites deeply curved on inner portion (Fig. 3), Chelicerae robust, bulging anteriorly on basal segment, armed with 3 on promargin and a row of 9-10 teeth on retromargin of fang furrow, fang

¹ Accepted February, 2000

² Zoological Survey of India, Western Regional Station, PCNTDA, Rawet Road, Sector 29, Akurdi, Pune 411 044, Maharashtra, India.



Figs 1-12: *Amaurobius indicus* sp. nov.

1. Female, dorsal aspects (legs omitted); 2. Abdomen, lateral aspects; 3. Cephalothoracic sternum, labium and endite, ventral aspects; 4. Chelicera, lateral aspects; 5. Dentition on chelicerae, promarginal aspects; 6. Basal segment, mesal aspects; 7. Male palp, lateral aspects; 8. Male palp, mesal aspects; 9. Female palp, dorsal aspects; 10. Tarsus IV, lateral aspects; 11. Female epigyne, ventral aspects; 12. Female genitalia, dorsal aspects

more than half the length of basal segment, bent on middle portion and acutely pointed (Figs 4-6); Palps simple, elongated, armed ventrally with 5-6 longer setae on Tibiae and Tarsi, and 5-6 Trichobothries in a cluster placed almost at the centre on external surface, in both male and female (Fig. 9); Palps in male (Paratype) much elongated with shallow cymbium, armed with few longer setae and thickly clothed with short hair, paracymbium bulging at the base of cymbium (Fig. 7) with a pair of small spikes, a pair of short, straight but stout apophysis present on outside of Tibiae, outermost being longer and stouter (Fig. 8). Legs I-IV comparatively thin, long, smooth and shining, armed ventrally with 9-9, 8-8, 3-2, 3-2 anteriorly directed paired spine rows (Fig. 10); Leg formula 1432, calamistrum present on III & IV pairs, more prominently noticeable on 1/6th distal portions. Scapula prominent on III & IV pairs while claw tufts fringed prominently on all legs.

Abdomen: Longer than wide, dorsum covered with smooth scutum without any hair, a weak chitinous collar present on 1/3rd anterior portion along with pedicel in female. Female genitalia with a pair of clear dark spots (Fig. 11), internal genitalia with dark dumbbell shaped sacs (Fig. 12).

The anterior 1/3rd chitinous collar continues ventro-posteriorly up to 2/3rd of abdominal portion in male, male palp complicated (Fig. 8).

Type data: Holotype 1 ♀, Paratypes 1 ♂, 2 ♀♀, (2 ♀♀ genitalia dissected and kept in microvials separately), all in 70% rectified spirit, will be deposited in the National Collections, Zoological Survey of India, Kolkata.

Type locality: 40 kms, northeast of Khalapur, near Matheran, Dist. Raigad (Colaba), Maharashtra, India. Coll.: Dr. D.B. Bastawade, 13.xii.1987.

Distribution: So far known only from type locality.

Etymology: Named after country of collection and distribution locality i.e. India.

KEY TO *AMAUROBIUS INDICUS* SP. NOV.

- Anterior row of eyes more procurved, anterior and posterior lateral eyes placed together, ocular quad almost square, tibiae and metatarsi of I pair of legs armed below with 9-8 and 9-9 paired spines in male and female, leg formula 1432, male palp with elongated shallow cymbium and a bulging paracymbium with two short curved spikes and a pair of tibial apophysis, outer being elongated and straight than inner, female genitalia with a pair of dumbbell shaped darker sacs
..... *Amaurobius indicus* sp. nov.
- Anterior row of eyes less procurved, anterior and posterior lateral eyes placed away from each other, ocular quad almost rectangular, tibiae and metatarsi of I pair of legs with 4-4 and 6-6 paired spines in male and female respectively, leg formula 1423, male palp with short and deeper cymbium with a simple coiled paracymbium and with a stout curved tibial apophysis, female genitalic sacs triangular in shape and clear ones.
..... *Amaurobius andamanensis* Tikader

FAMILY: THOMISIDAE

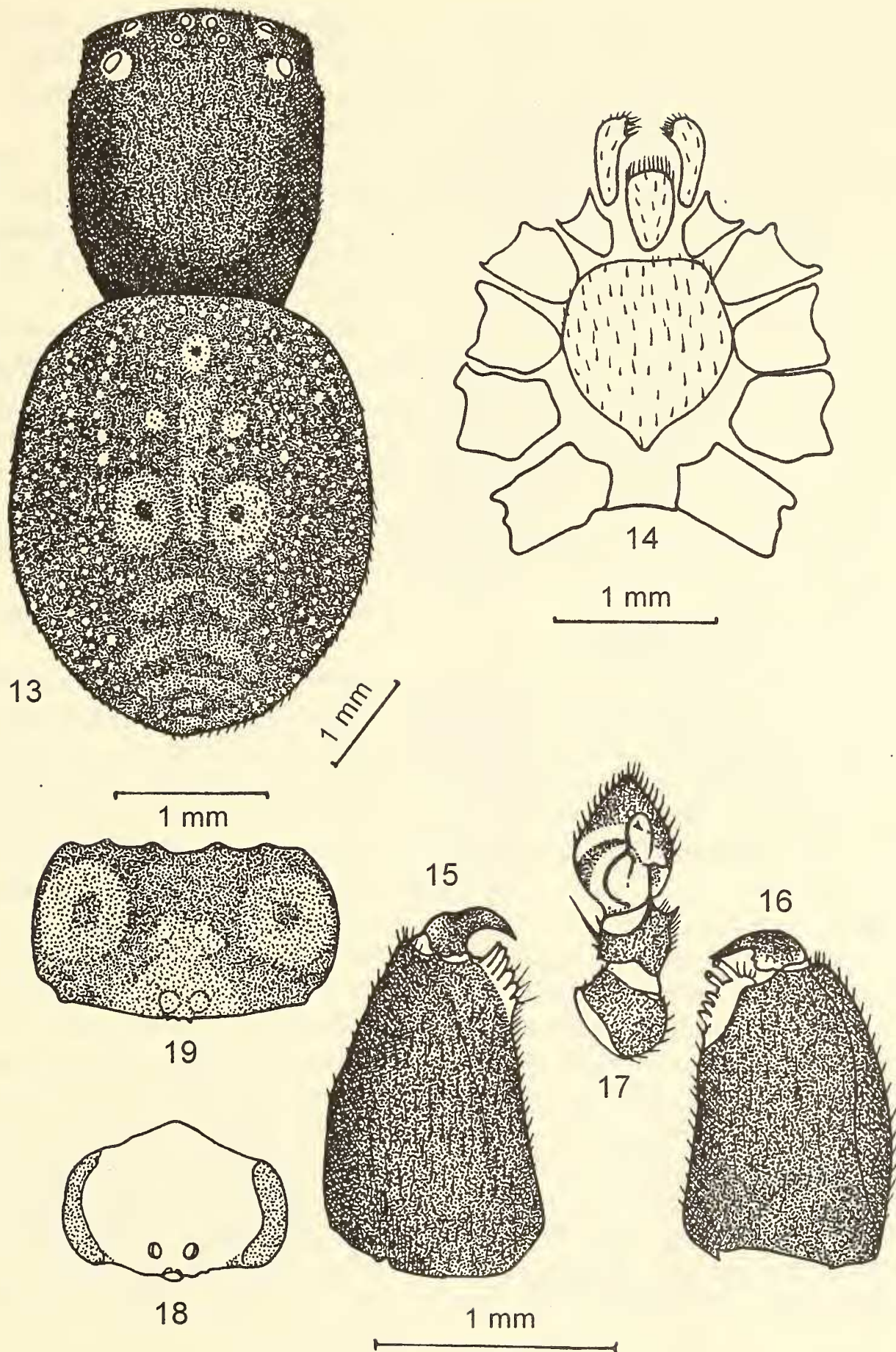
Camericus bipunctatus sp. nov.

(Figs 13-19)

General: Crab-like appearance, dark brown to blackish, lighter on abdomen with a pair of conspicuous light yellowish spots on mid-dorsal portion, legs robust and dark brown to blackish-brown (Fig. 13).

Measurements (in mm): Total length 7.00; Cephalothorax 2.90 long, 2.20 wide; Abdomen 4.10 long, 3.80 wide.

Cephalothorax: Wider than long, uniformly dark brown, more darker on lateral portions, stalks of lateral eyes conspicuously



Figs 13-19: *Camicus bipunctatus* sp. nov.

13. Female, dorsal aspects (legs omitted); 14. Cephalothoracic sternum, labium and endite, ventral aspects; 15. Chelicera, dorsal aspects; 16. Chelicera, ventral aspects; 17. Male palp, mesal aspects; 18. Female epigyne, ventral aspects; 19. Female genitalia, dorsal aspects

yellow, entire surface finely punctate, sparsely and finely rugose, more or posterior portion, clothed with fine short hair, ocular quad longer than wide, both the rows recurved and anterior lateral eyes situated on shorter stalks and posterior lateral not placed nearer to the posterior medians and small in size (Fig. 13), sparsely clothed with short hair; Cephalothoracic sternum small, inverted pear shaped pointed posteriorly, labium small narrow, longer than wide and endites curved inside on anterior portion (Fig. 14); Chelicerae dorsoventrally compressed on basal segments, narrow distally, finely granular on dorsal portions, weakly and sparsely clothed with short hair, promargin outstretched and armed with 6 denticles (Figs 15, 16), boss small, triangular fang very short, less than 1/3rd of basal segment (Fig. 15).

Palps short and slightly flattened on tarsi, clothed with short hair. Legs I & II longer and robust, darker than III & IV and also thickly clothed with short setal hair on ventral and interior portions of Tibiae and Tarsi of I & II, all legs finely punctate, rugose on ventral portion of femora, sparsely haired with short hair. All legs armed with a pair of claw anterior being stronger.

Abdomen: Almost elliptical, longer than wide, soft, dorsal portion with a pair of conspicuous, round, yellowish-brown mid-dorsal spots with a small central reddish dot along with three smaller spots, single on anterior median portion, while a pair between the larger median spot and a central smaller spot (Fig. 13), dorsal portion other than these spots covered with serially beaded lines but lighter in color (Fig. 13), entire body clothed with short setae. Two pairs of short and stumpy spinnerets present on postero-ventral portion. Genitalia as in Figs 18 & 19.

Measurements (in mm): Total length 5.65; Cephalothorax 2.15 long, 1.90 wide; Abdomen 3.50 long, 3.10 wide; Male palp with short cymbium and thin minute transparent paracymbium (Fig. 17).

Type-data: Holotype 1 ♀, Paratypes 6 ♀♀, all in 70% rectified spirit (♀ genitalia dissected and kept in micro vial). Male paratype smaller in body size, also lighter in colour.

Type locality: Near Tulsi Lake, Sanjay Gandhi National Park, Near Mumbai, Maharashtra, India collected from under loose bark of a fallen tree. Coll. Dr. D.B. Bastawade, 27.ii.1997.

Distribution: Thane, Nasik (1 ♀), and Dhulia districts, Maharashtra and West-Kameng District, Arunachal Pradesh, India. (Specimens collected from Arunachal Pradesh are small in body size and paler in body colour).

Etymology: Named after the two prominent spots present on the dorsal surface of the abdomen.

KEY TO *CAMERICUS BIPUNCTATUS* SP. NOV.

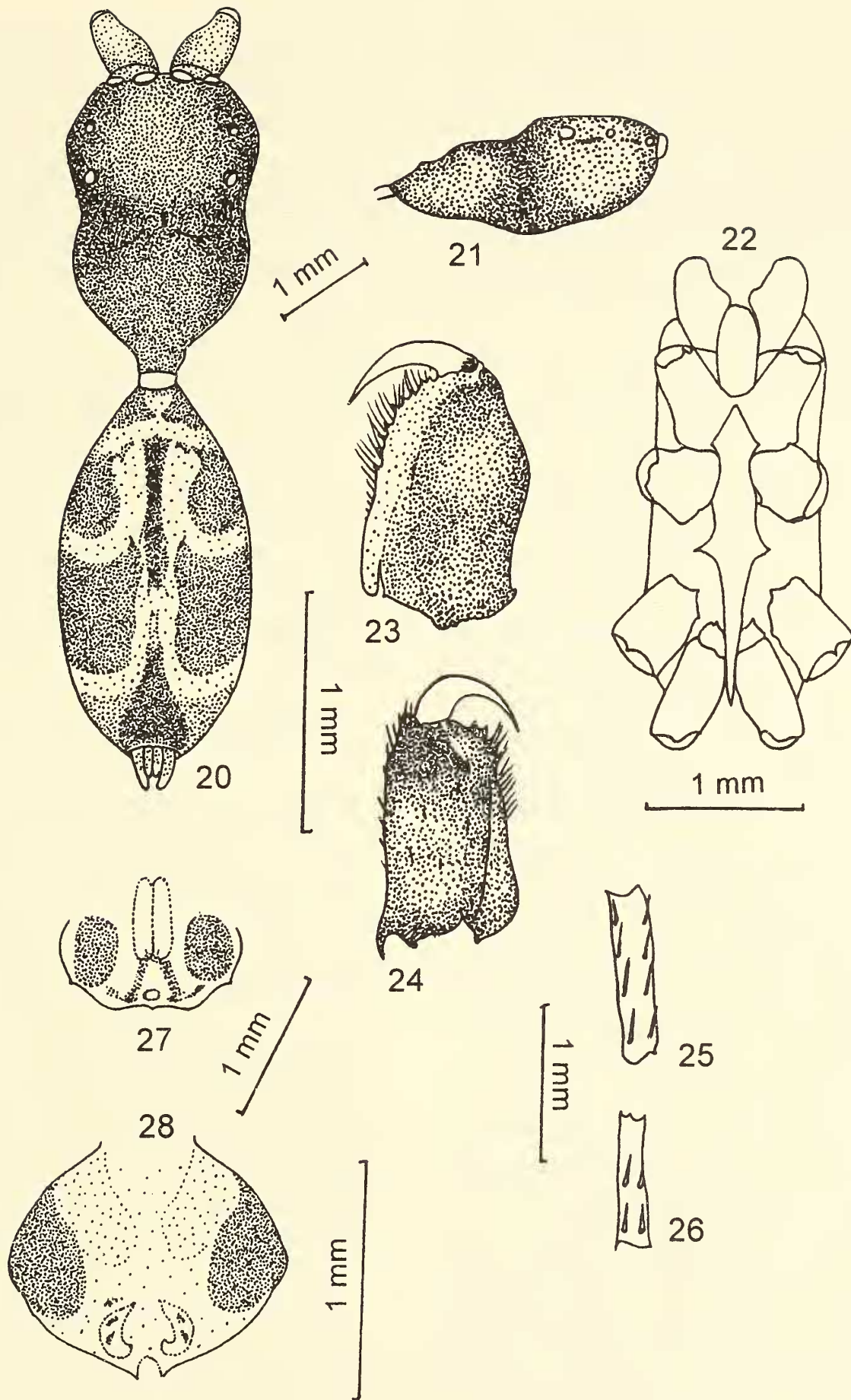
- Anterior and posterior median eyes placed very close to anterior median portion and situated away from lateral eyes, dorsal surface of abdomen bears a pair of conspicuous elliptical spots in the middle with dark reddish central portion and rest of the abdominal portion decorative with light beaded lines, I and II pairs of legs thickly clothed ventrally on tibiae and tarsi and uniformly brown to blackish in colour, Female epigyne and male palp structurally different *Camericus bipunctatus* sp. nov.
- Anterior and posterior median eyes placed more on lateral portion close to lateral eyes, dorsal surface of black abdomen decorative with an inverted chalk white anchor shaped patch, tibiae and tarsi of I and II legs not so thickly clothed and patched with black in female, female epigyne and male palp structurally different...
..... *Camericus formosus* Thorell

FAMILY: SALTICIDAE

Myrmarachne dirangicus sp. nov.

(Figs 20-28)

General: Ant-like spider, blackish-brown,



Figs 20-28: *Myrmarachne dirangicus* sp. nov.

20. Female, dorsal aspects (legs omitted); 21. Cephalothorax, lateral aspects; 22. Cephalothoracic sternum, labium and endite, ventral aspects; 23. Chelicera, dorsal aspects; 24. Chelicera, ventral aspects; 25. & 26. Tarsi I & IV, ventral aspects; 27. Female epigyne, ventral aspects; 28. Female genitalia, dorsal aspects

more blackish on cephalic region while light brownish on thoracic region, abdomen with two pairs of narrow lateral whitish bands, median anterior portion darker with a blackish patch on posterior portion (Fig. 20), light brown to yellowish-brown on ventral portion; Chelicerae brown, palps dark blackish on distal segments, legs darker on exterior margins and on joints, otherwise pale brown. Anterior median eyes larger than others and pearly white.

Measurements (in mm): Total length 7.10; Cephalothorax 2.90 long, 2.00 wide; Abdomen 4.20 long, 2.00 wide.

Cephalothorax: Longer than wide, cephalic region high and flat, posteriorly sloped into a shallow constriction and continues posteriorly into thoracic region, further narrowing posteriorly into a pedicel (Fig. 21), entire surface smooth, clypeus narrow and not high, eight eyes placed in two rows, anterior two pairs placed in front in a row; median pair being larger and pearly white; posterior row deeply procurved, the medians being shifted much laterally almost in a same line to posterior laterals and much smaller in size (Fig. 20), ocular trapezium wider than long; Cephalothoracic sternum elongated and acutely pointed posteriorly, labium elongated with lateral margins parallel, rounded on anterior margin, endites narrowed behind to accommodate labium (Fig. 22); Chelicerae depressed from sides, almost quadrangular, with a ridge on interior surface, basal segments armed with promarginal and retromarginal row of 10 and 4 minute teeth respectively (Figs 23, 24), fangs pointed and almost $1/3^{\text{rd}}$ of basal segment. Palps short as compared to body length, dorsoventrally flat and expanded, fringed ventrally with short setae and other portion covered with hair, a long Trichobothridial hair present on proximal portion of Tibiae. Legs I-IV thin, in 4312 formulae, Tibiae I with 4 pairs, and II with 2 pairs of anteriorly directed ventral spines (Figs 25, 26), Tarsomeres fringed with

short setae.

Abdomen: Longer than wide, entirely smooth, leathery except the Epyginal portion, covered with short hair, with two lateral oblique bands (Fig. 27), internal genitalia with a pair of sacs, curved on inner portions and each sac bears two dark spots in it (Figs 27, 28).

Type Data: Holotype 1 ♀, Paratype 5 ♀♀. Holotype ♀ dissected for genitalia and kept separately in micro vial, all in 70% rectified spirit, will be deposited in National Collection Zoological Survey of India, Kolkata.

Type Locality: 15 kms O' Dirang, West-Kameng District, Arunachal Pradesh, India. Coll. Dr. D.B. Bastawade, 22.ix.1990.

Distribution: So far known only from type locality.

Etymology: Named after the type locality Dirang.

KEY TO *MYRMARACHNE DIRANGICUS* SP. NOV.

- Cephalothoracic region broad and short than the abdomen, cephalic and thoracic junction not much constricted and shallow, cephalic region blackish with white tinge, whereas thoracic region brownish, the abdominal coloration and female genitalia entirely different structurally
 *Myrmarachne dirangicus* sp. n.
- Cephalothoracic region narrow and more elongated than abdomen, cephalic and thoracic junction much constricted and deep, cephalic and thoracic regions totally brownish, colour pattern on abdomen and female genitalia entirely different structurally
 *Myrmarachne bengalensis* Tikader

ACKNOWLEDGEMENTS

I thank Dr. J.R.B. Alfred, Director, Zoological Survey of India, Kolkata for permission and encouragements to take up and complete this work at WRS, Pune. I am also grateful to Dr. M.S. Pradhan, Scientist-SE, WRS, Pune for providing me the necessary facilities to

NEW DESCRIPTIONS

undertake this work. I thank Mr. P.W. Garde, my mother and wife for their constant co-
Artist Gr. I, WRS, Pune for the drawings, and operation during the work.

REFERENCES

TIKADER, B.K. (1977): Studies on spider fauna of Andaman
and Nicobar Islands, Indian Ocean. *Rec. zool. Surv.*
India 72: 153-212.

TIKADER, B.K. (1980): Fauna of India, Araneae I:
Thomisidae. Zoological Survey of India, Delhi,
pp. 247.

